AMERICAN VETERINARY REVIEW,

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EDITORIAL.

To OUR READERS.—The REVIEW enters into its teens—our thanks to contributors—the journal is one of the necessities of the profession—good things said of her—editorial modesty overcome—the profession is worthy of our best efforts. UNITED STATES VETERINARY MEDICAL ASSOCIATION.—Relations between it and the Review—the last meeting in Boston—a good attendance—New York's neglect—revising the by-laws again—reports of committees—let all colleges publish the names of their graduates—papers read – tuberculosis—micdiate contagion—recording clinical observations. SPELTER OR SPELTERINE.—A new remedy—it is only a preparation of zinc—our success in its use for chronic scratches. CERTAIN CURE FOR SPRING-HALT.—We may recommend the trial of some drugs but not all—booming quackery is not our work—if a new therapeutic is worthy, let it be known. PEDDLERS OF VETERINARY SCIENCE.—The credulity of people—especially in veterinary matters—the impostor in human medicine—now in veterinary—his general appearance—mode of acting—look out for him—the remedy—the duty of the veterinary societies—the moment his trade won't pay he will stop.

To OUR READERS.—The addition of a digit to the figures which change our volume number from the twelfth to the thirteenth, and thus introduces the REVIEW into its teens, though far from tincturing our consciousness with any suggestion of a venerable feeling, still reminds us that it will be quite in order to address our readers with a word or two of acknowledgment for the pleasure of their good company hitherto, and the expression of a hope that we may in the time to come enjoy it in largely increased measure. To our contributors we tender a special word of acknowledgment, and to all of our friends in the profession we offer anew our assurance of our appreciative consideration for

their support and encouragement, in whatsoever form it may have reached us.

If the REVIEW has not by this time become established as one of the necessities of the profession, it has not been through any lack of effort on our part, and if we fail to improve its character and enlarge its usefulness in the new volumes yet to be issued, it will not be because our aim has become lower and our resources diminished. If, as some one writes, "Veterinarians cannot do without it; if when one number has miscarried, inquiries are at once made why it has not come; if our list of subscribers is increasing," if, in short, all that the editor hears from correspondents and friends in relation to the REVIEW is not greatly exaggerated, the editor may be pardoned if for once he has been over tempted, and his usual conspicuous modesty has succumbed to a sense of excusalbe pride in securing its present status for the REVIEW, upon its accomplishment of its entrance into its teens.

And meanwhile, we must not allow ourselves to forget that there are higher considerations and a more influential motive, aside from those which are merely personal, which should not be ignored, in the indulgence of a laudable ambition to contribute to the welfare of the veterinary profession at large by studying and laboring for the great interests and the enhancement of the growing influence of this important member of the great family of the sciences at large.

UNITED STATES VETERINARY MEDICAL ASSOCIATION.—Proudly remembering this honorable body as its legitimate progenitor, the REVIEW has been accustomed, at least once in six months, to make a formal tender of its respectful service and filial duty to "the author of its existence." This observance has usually been so timed as to correspond with the semi-annual meetings of the Association, and has also coincided with the commencement of a new volume of the REVIEW. We have no intention of intermitting this custom, having been "to the manner born," and we again hereby renew our obeisance, wishing, moreover, for many future opportunities for its repetition.

These occasions have, by a highly judicious arrangement, regularly "flitted," from year to year, in respect to the matter of

locality, and have circulated extensively, from community to community, and city to city; now favoring New York, then changing to Cincinnati; thence to Philadelphia; meeting again in Baltimore and now giving Boston a turn, where the last meeting was held, on the usual day and at the usual hour; but by some extraordinary change made at the very hour appointed for the meeting of the Comitia Minora. Our compliments are surely due for that, and also for the manner in which the entire affair was conducted.

It was a good meeting, with a fair representation, New York City, however, being conspicuous by her almost complete lack of representatives, four only being present. Amongst sundry items of business of a private character, promotive of the welfare of the Association, which were disposed of, was the adoption of a resolution for a complete revision of the Constitution, which may be accounted a strange proceeding.

The general meeting was interesting, and the reports of committees able and good. Some little feeling was elicited by the reading of that which came from the Committee on Intelligence and Education, but it was wisely strangled by a general vote of the meeting. If the deans of the faculties of the various Veterinary Colleges would take the trouble to make public, through the medical and veterinary press, the number of their graduates and their names and addresses, errors like that which gave rise to the difficulty caused by the report of the Chairman on Intelligence and Education might be avoided. The REVIEW would be pleased to publish them; indeed, such publication is, in fact, an obligation due from every institution to its graduates, for their protection against the impostors and charlatans whose misdoings bring discredit upon reputable and responsible practitioners.

A valuable paper on *Tuberculosis* was read by Dr. Winchester, which was followed by some discussion. There was also an answer to Dr. Salmon's views on the subject of mediate contagion, by Dr. Gadsden, which was read by the Secretary, and a paper on "Recording Clinical Observations," by Dr. A. Liautard, read by the author.

The meeting adjourned in order to destroy a splendid supper, in which duty they labored without abatement until railroad time

was announced, and those who were homeward bound were under the necessity of abandoning their task. The next meeting will convene in Brooklyn.

SPELTER OR SPELTERINE.—The general pharmacopœ in use by the veterinary practitioner of former times—and not very remote times either—was doubtless in its scope and completeness, quite adequate to the requirements imposed upon it by the contemporary condition and standards of the profession as it might then be measured.

But the world moves, and as was but natural, the development and growth of veterinary science, with its constant discoveries of new medical means and appliances, has superseded and abolished not a few of the panaceas and specifics which were once highly esteemed and widely trusted.

If practitioners in human medicine have taken advantage of the numerous discoveries which have in late years rewarded their activity in research and experiment, their veterinarian cousins have not been far in the rear in the march of progress, and in recent times, very few of the novelties which secure favor and adoption in the treatment of human maladies fail of speedy adoption and adaptation by those who occupy the related field of veterinary therapeutics.

As occasion required, we have frequently called the attention of our readers to such new drugs as have at intervals secured an introduction and establishment into medical practice, and in doing this we have been specially desirous, and have taken special pains to avoid everything in our remarks which might suggest a suspicion of a desire to "boom undeservedly" a new article; and while giving to our friends the results of our experience, and at the same time leaving to their decision the final verdict as to the value of the article which may be the subject of examination and trial, we intend to continue to observe the same rule.

Spelter, commercially known as spelterine, is a new curative agent which has been introduced into our markets, and is said to possess sundry excellent healing properties. This substance is sold in the form of a powder, and is a preparation of zinc in its purest condition, and as such, may be used as an excellent dressing for some kinds of suppurating wounds.

There is no doubt that the excellent astringent and antiseptic properties by which this powder is characterized render it a very beneficial application for the promotion of the healing process in large wounds. But in our hands, it has produced its most satisfactory results when it has been administered in the form of an ointment. In this shape, when used in the treatment of chronic scratches and obstinate erythematous eruptions, it has given us great satisfaction, and we think the preparation is well worth a faithful trial at the hands of our confreres.

CERTAIN CURE FOR SPRING-HALT.—Our object in making occasional mention of new drugs and curative preparations must not be misinterpreted, and it must not in any case be inferred from our doing so that the REVIEW has it in contemplation to become the advocate and supporter of every or any pretentious nostrum. Invitations similar to the one which we recently received must, therefore, not expect a very kind reception at our hands, when from the very tone in which they are conveyed they betray the taint of charlatanism and imposture. The notice to which we refer was sent to us by persons signing themselves "veterinarians," and offering us "a sure and certain cure for string or spring-halt in horses." A *cure* is guaranteed; failure has never been seen—its *exact* location is now well known—the medicine is used both internally and externally; and success is assured in from one to two weeks, according to circumstances. The notice concludes by saying "we propose to give the profession the advantage of the discovery by furnishing the medicines and directions on *liberal terms*." We have only this to say to such an offer: Gentlemen, if you propose to *give*, do so; but do not offer a "sell" as a favor. Let the profession try your remedy; you may feel assured that if it but half fulfills what is promised, we shall all be only too willing to give you such recognition and reward as your discovery deserves.

PEDDLERS OF VETERINARY SCIENCE.—The credulity of the public in exposing their willingness to listen to the proclamations of the claims of every kind of humbug which chooses to thrust itself into notice is almost proverbial, and of all the professions which are exploited in this way the medical, we sometimes think,

is the one which suffers the most. And as veterinary science progresses, its interests seem also doomed to suffer in the same manner.

The evil has indeed reached to such an extent that it seems to us that the time has come when it has become the duty of all regular practitioners to look carefully to their interests and those of their patrons and to guard them vigilantly against the dangers arising from the tricks and pretentions of a new class of quacks and impostors. The new enemy against whom the profession are called to make an earnest stand and to wage mortal combat, is the traveling veterinarian, sometimes styling himself a "veterinary student," and at others a "regular graduate," and perhaps covering himself with the disguise of an alumnus of some reputable veterinary college. This new plague, against which the veterinarian of education is doomed to fight, is ordinarily a man more or less familiar with animals, and who may in some cases seem to possess a little smattering of information, or if he has none he pretends it by the exhibition of an array of a few books, very often from obsolete and refuted authors; he is more or less fluent and "smart;" he *delivers lectures*; and as we are informed, as to one specimen, by one of our correspondents, "awakens a considerable interest in this branch."

Our friends must look out for these new peddlers of science, which commodity they sell at quite too high a price, however low their financial terms may seem to be.

The best, if not the only way in which their bad influence can be overcome is the careful scrutiny by the authorized and permanent veterinary societies, of all questionable claims, and the enforcement of the laws (where that is practicable), which we are glad to be able to say are in existence, as the fruit of a commendable intelligence existing in some few of the States of the Union, for the protection and regulation of veterinary medicine. That several States are now enjoying the benefits of these laws is a cause for congratulation, and we have a strong hope that in a time not remote, every commonwealth in the Union will be similarly priviledged.

With ample protection like this, the veterinarian interest

need no longer fear aggression, either from without or within, and may contemn all the agents of quackery and deception, if not absolutely, at least to such an extent as to render their labors too unprofitable and dangerous to encourage them in the prosecution of their nefarious occupation.

ORIGINAL ARTICLES.

GENEALOGY OF THE HORSE, AND ITS IMPORTANCE TO THE HUMAN RACE.

A Paper read before the Deutscher Literarischer Club, Cincinnati, October 3rd, 1888, by J. C. Meyer, Sr.*

GENTLEMEN:—The history of the horse is best known of all domestic animals, and is closely associated with that of man.

The horse and the ass have been the object of the most unremitting attention by man from the beginning of human civilization; that poets, philosophers, statesmen, historians, rural-economists, warriors, hunters, speculators, physiologists, and veterinarians have all objects where the horse at least, forms a conspicuous element; that from the inspired poetry of the Book of Job, from the times of Homer, Aristotle, Xenophon, Herodotus, Virgil, Varro, Columella, Gesner, Aldrovandus, Johnston, Buffon, Linnæus, Pennant, Pallas, Gmelin to Saint Hillaire, Cuvier, Bell and a host of others ancient and modern, facts and observations have been accumulating, researches pursued and descriptions produced, where we trace patient investigation and often eloquent description.

From the earliest period to the present time, the horse has been and still is the ruling factor in war, and at all times was the dearest object of the warrior, at whose hands it received the kindest treatment.

*LITERATURE.—The Horse, Hamilton Smith; Zahnnung und Abstammung des Pferdes, Branski; Vortraege ueber Pferdekunde, Adam; Exterieur des Pferdes, Hoffman; Das Pferd, Loeffler.

The fate of nations is dependent upon the number and use of the equidæ. In all history it is apparent that those nations which were rich in horses were always superior to and conquered those who had few or no horses. For instances, the Hyksos conquered ancient Egypt with the aid of their horses. The Magyars invaded Germany, Italy and even France on their horses. The spread of the Mohammedan religion is due to a great extent to the horse. Also in the conquest of America the horse rendered the Spaniards efficient services. Thus it follows that more is known of the development of horse breeding than of any of the other domestic animals.

By comparing the relative conditions of extant animals and fragments of fossils, the history of the development of our domestic animals was made known piece-meal by different prominent naturalists, and finally an entire picture was presented. This is particularly true of the horse, whose ancestors, by clear and distinct progression, gradually attained the present stage of development.

Huxley is entitled to special credit for having (in his lectures delivered in America) presented the theory of development in such popular style as to be easily comprehended by the public, while Kowalewski, Rutimeyer, Marsh, Burmeister and others, wrote in a style intelligible only to paleontologists, or at least such who are well versed in anatomy and geology.

The family equidæ is commonly divided into three species; horse, ass and zebra. Of the four-footed vertebrates this group occupies the foremost rank.

The trunk of the horse rests on four limbs. The anterior limbs each comprise shoulder blade, arm, forearm, knee-joint, canon bone, two splint bones, pastern, coronary and coffin bones, two sesamoidal bones and a navicular bone; the posterior limbs consist of the thigh, leg, hock-joint, canon bone, two splint bones, pastern, coronary and coffin bones, two sesamoidal bones and a navicular bone. The extremity of the horse's foot is enclosed in a solid horny capsule.

If the fore foot of the horse be compared with the human hand, and the hind foot with the human foot, a certain similarity

is discernible. The shoulder blade of the anterior limb corresponds to that of man, the humerus to the humerus, the forearm to the ulna and radius of man; it will be seen that instead of the two separate bones of the forearm in the horse, there is apparently but one, that is the radius; still the ulna is present but not separate, only rudimentary and united with the radius. In man the two bones are fully developed and separate. The bones of the fore-knee correspond to the wrist of man, the canon bone to the metacarpal, the pastern, coronary and coffin bones to the three phalanges of the middle finger; thus the middle finger of the horse is most strongly developed, and it may be said that the horse steps on his powerful middle finger. The femur of the posterior limb corresponds to that of man, the leg to the leg of man. Still some deviations are found: whilst the leg of the horse has for its base one compact bone, the tibia and a small undeveloped bone, a rudimentary piece, the fibula, the leg of man consists of two separate bones, fully developed, the tibia and the fibula. The knee-joint of man corresponds to the stifle-joint of the horse, the hock-joint is nothing less than the heel of man, the canon bone of the posterior limb corresponds to the metatarsus; the pastern, coronary and coffin bone to the three phalanges of the middle toe of man.

From this comparison it is at once perceptible how incorrect the nomenclature of the separate bones of the horse's foot is, and how a revision is needed.

If a close examination of the bones of the horse's foot be made, it will be discovered that the canon bone (which corresponds with the the metacarpals of the human hand and the metatarsals of the human foot), is composed of three bones instead of one. On the posterior face of the canon bone two long pyramidal bones are attached which taper downward free; these must be accepted as remains of former toes, more so as the upper end has distinct articular surfaces and terminates in a small tubular knob which can be felt through the skin (and often erroneously taken for splints) and is nothing but an aborted joint. Consequently these splints must have played a certain role, and have served another purpose than at the present time, for the ob-

servant eye of the anatomist discovers muscles in their proximity which must have been the organs of motion of these bones. To-day these splints, together with their tender muscles, are useless, therefore they are called rudiments. Nature has, however, retained these bones as evidence that the ancestors of the equine race were possessed of a differently constructed foot. The splints, therefore, correspond to the second and fourth finger of the human hand.

The progenitors of the equidæ must be sought for in the depths of the earth's crust, where are their skeletons, proofs of former existence.

The fossil remains of the equidæ are found in thousands of specimens scattered in various parts of the earth, and in the course of many thousands of years, like all other animals, have been subjected to a continual, though imperceptible metamorphosis before they finally attained the present form and stature.

The horse of pre-historic time, that is in the Alluvium, was called Equus Caballus just as to-day, and wholly resembled the horse of to-day. His bones are found in caves and grottos, often accumulated in vast numbers; it was the wild horse which existed in company with the mammoth, rhinoceros, cave-bear, reindeer, gigantic deer, and was a favorite game of man.

In the Diluvium the ancestor of our horse was a soliped, and resembled the horse of to-day in most respects; however there was a difference in the teeth.

The oldest form of the equine race has been preserved in all three strata of the tertiary formation, pliocene, miocene, and eocene, still in the construction of the foot that degree of perfection characteristic of the horse of to-day was not developed.

On the fore as well as on the hind foot, the middle finger was most strongly developed; the horse, at that time, must have used the middle finger as he does to-day.

In the pliocene, the uppermost strata of the tertiary formation, we find the hipparion. These animals are characterized by the presence of the middle and strongest developed hoof; on both sides are two small hoofs, which, however, do not touch the

ground. The remains of the hipparion were found in Greece, France, Germany, Austria, Switzerland and Asia.

In a lower tertiary strata, that is the miocene, we find an animal called anchiterium resembling the hipparion, though it has a smaller head and a difference in the teeth. Each foot has three toes, which are small, but in comparison with the hipparion larger and better developed. Remains of the anchiterium are found in the gypsum strata near Paris, also in England, Germany and the Alps.

In a still lower tertiary strata, that is in the eocene, the form of the equine race deviates so much from that of to-day that it is very little like it.

The genealogical tree of our horses, which has been traced to the oldest strata of the tertiary, shows many deficiencies in Europe; that of North America, explained by Marsh, is much more complete.

According to Wilkens the paleontological history of equine-like animals in North America is as follows:

The oldest representative of the horse, as far as now known, is the small eohippus (the size of a fox) of the lower eocene, on whose fore foot are four well developed toes, and the rest of a fifth, and three toes on the hind foot.

In the next higher layer of the eocene the orohippus makes its appearance. This animal has a slight, though greater, resemblance to the horse type than the erohippus; the aborted fifth toe has already disappeared.

Near the basis of the miocene, a third species, messohippus, which is a degree more horse-like, is found. It possesses but three toes and an undeveloped bone-splinter on the fore foot and three toes on the hind foot.

Then a fourth form—miohippus, in the upper miocene, closely resembles the anchiterium of Europe. The three toes on the fore foot are nearly a size and a rest of the fourth bone is still visible.

The protohippus of the lower pliocene is very much like the hipparion of Europe. These animals possessed three toes, but the middle one only, corresponding to the single hoof of the present horse, touched the ground.

In the middle pliocene we arrive at the last degree—before the appearance of the horse of to-day—in the species of pliohippus, which have already lost the small conoid hoofs, and are in other respects very much like the horse. In the upper pliocene the true horse makes his appearance; in the after tertiary period it roams over the whole of North and South America, but becomes extinct long before the discovery of the new world. When this part of the world was discovered by Columbus, America did not possess a single horse.

By the above line of ancestors of the present horse it will be seen, that from the original three-toed protoplasts, in innumerable generations, a one-toed animal gradually developed. It proves that a continual endeavor existed to simplify the limbs; the side toes gradually grew smaller until they eventually disappeared entirely, and now the rudimentary splint-bones only remain.

We have now arrived at the last stage of the development of the horse, and it may be unnecessary to state that paleontology is to be credited with these discoveries, a science, which though still in its infancy, has revealed many valuable facts. As is known, paleontologists met with much opposition at the outset. Their views did not harmonize with those given in Genesis, whose advocates (particularly theologists), claimed that these fossil discoveries were evidences of the deluge; however, the geologists gradually furnished so many proofs in favor of their science, that it is impossible to refute the same. Still, Darwin's attempt to trace the lineage of man from the monkey has not at all events been accepted, as is shown in a discussion at a jubilee meeting of German naturalists and physicians held in 1878, at Munich. The instruction of youth in the higher branches was the topic of debate, in which three of the most noted scholars, Virchow, Naegeli and Haeckel participated. The former among other things said, "prudence demands that they endeavor to make sure of their ground by wise moderation, by a putting forward of those things which are established in the sight of all men, rather than individual opinions." In the course of discussion he also had occasion to refer to paleontological evidences, whereby it has been sufficiently proven that the horse is descended from a five-

toed ancestor, while Darwin, as we all know, has not been successful in finding the missing link showing that man descended from the anthropoid race.

The same writer has the following: The devil is said to have appeared to Cuvier and threatened to eat him. "Horns? Hoofs?" said Cuvier. "Graminiverous—Can't eat me." "All flesh is grass," replied the devil, always ready with that fatal habit of misapplying scripture which has always clung to him.—(W. K. Clifford in *Popular Science Monthly*.)

Now, gentlemen, if you will give me your attention a little while longer, I will give a few details which show the esteem in which this noble animal was held by our forefathers.

Buffon says, "Man, among all animals over which he claims lordship, could not have made a greater conquest than by domesticating the horse, this proud and fleet animal, upon which nature bestowed its most noble gifts, form, strength, courage, fleetness and endurance."

Upon discovering the advantage which the horse may render man over his opponent, and the more nations considered war, migration, and pomp the purpose of their existence, the prime of the horse's life began.

Facts based upon linguistic researches show that all descendants of the Aryans have the same root for the word "horse," therefore it is generally accepted as the main proof that the domestication of the horse took place first in Iran, the mother country of the Aryans, about 3,000 B. C., and from there the domesticated horse spread over the whole of China, India, Mesopotamia, Persia, part of Asia Minor and then gradually over the whole earth.

From the moment the horse was used for riding, its importance as a domestic animal reached its zenith. Its subjugation forms a highly significant epoch in the civilization of the nations. The superiority of the horse among other domestic animals is due to the fact that it was bred and used for war.

The invasions of wild cavalry hordes which stirred up whole nations, the wars that shook the earth and penetrated the whole of Europe, would not have been conceivable without the aid of the

horse. The training of the horse for riding purpose had the same effect, in a small way, as the introduction of the locomotive had upon the whole world.

In the earliest period the horse seems to have been used for draught purposes by individual tribes. At the time of Hoang-ti, of China, 2,698 B. C. it was in full use. The Egyptians were in possession of the horse 2,500 B. C., and from there it spread over North Africa.

The first mention of the horse in the Old Testament is in the following verses: "Joseph gave them bread in exchange for horses, and for the flocks and for cattle of the herd and for asses." Again, when the body of Jacob was taken to Canaan, "there went up with him chariots and horsemen." "And the Egyptians prusued and went in after them in the midst of the sea, even all Pharaoh's horses and his chariots and his horsemen."

Several centuries later, at the time of Moses, the people of Israel were forbidden to keep horses, in order to prevent their coming in contact with other tribes.

King David was the first of the Israelites to disregard this Mosaic injunction; he kept one hundred captured chariots and horses for himself. Solomon heeded the prohibition still less. He introduced the horse throughout the whole of Palestine, and with mercantile spirit monopolized a trade in horses, at which he did a thriving business. He imported 40,000 horses from Egypt at 150 silver shekels, or 17 pounds sterling per head. It was then that the kingdom extended in glory and in surface far beyond its ancient boundary.

Serostosis, when he conquered the Nubians, 2,300 B. C., had in his army 24,000 horsemen and 27,000 chariots.

The Moors from Africa, who penetrated Spain and invaded the whole of Europe, had over 200,000 horsemen.

The Egyptians introduced the horse into Greece. The first appearance of horse and rider caused the inhabitants to believe this strange apparition to be a supernatural being, and in this manner the centaur sayings originated. The mythology of all nations, and that of the Greeks in particular, contained many traditions of the horse, but I will not recount them here; they all

tend to show, however, that the horse was held in veneration, not only by the earliest inhabitants, but, as is seen in literature, later generations seemed to have been inspired to a great extent. Thessaly in northern Greece was inhabited by chevaliers whose cavalry was widely famed.

The famous charger Bucephalus, of Alexander the Great, was out of the stud of Philonicus in Thessaly. The animal was so wild, shy and refractory that no one could mount him, and King Phillip doubted whether anybody could manage him, but concluded to buy him provided his son Alexander, who was so anxious to possess so fine an animal, could ride him. Alexander succeeded in the attempt, whereupon Phillip paid sixteen talents for him. Bucephalus was regarded as an ideal being, endowed with the highest virtues of which a horse can be possessed. He died in his thirtieth year. In memory of his beloved horse, Alexander erected an expensive monument on the bank of the Hydaspus, and on the same spot he laid the foundation of the city Alexandria. This epoch of Alexander the Great suffices to mark a new period in the history of the horse. From Macedonia, the country noted in early ages for its fleet horses, the son of Phillip, like a meteor, swept through all the lands in which the horse was held in esteem; he conquered the Greeks, Thracians, Scythians, Egyptians, Indians; in one word he established the greatest Asiatic reign that ever existed Not only through his conquests, but rather by his own personality is his history associated with the history of the horse. So closely is the life of Alexander knit with the life of Bucephalus that it would seem "useless each without the other."

During the time when the Olympic games were at their zenith, the horse rose to veneration, and Zenophon, who protested against such idolatry 44 B. C., said, "the horse is wiser than man, for had it gods it would certainly not give them the form of a human being, but that of its own, that is, the equine form." In the Olympics, the requirements of man and horse were so great, that the training of the horses was indeed an art. The arrangement of the competing chariots was decided by drawing lots. The chariot stationed on the outer side of the track was placed far-

thest back, while the one on the inner side was placed farthest forward. At one end of the track was a pillar which must be passed six times, making the whole stretch about six and one-half kilometers; the curve about this pillar was so short that great dexterity was required to accomplish this; in addition a figure called Taraxhippus stood near the track, the purpose of which was to frighten the horses. Above all a rock was placed on the track, that made the passage so narrow at this point, that the greatest care was needed to direct the horses through this narrow space. Both man and beast were exposed to the most thrilling accidents, and if a competitor was successful in avoiding all these dangers when making the circuit six times, he was deemed worthy of the laudation of his countrymen. The racing on horseback was less dangerous, but a remarkable regulation was, that the rider was obliged to leap from his horse before approaching the winning post, and run alongside of his animal. These Omlypic games lasted from 777 B. C., until 393 A. D., thus 616 years.

In Athens and Sparta, certain privileges being conferred on horsemen, a higher class of society, namely that of the knights, was formed. Many an Athenian loved his horse so well that when he lost it by death, his own existence seemed worthless. Aristophanes writes, "horse-breeding has ruined me, a fearful consuming evil," and his father, who laments because his son has become a sportsman, said, "He would not heed my words, but through his love for horses has reduced me to poverty." The Medes and Persians are descendants of the Aryans, and 1,200 B. C. the Medes were renowned for their horse-breeding. Up to the time of Cyrus the cavalry king, 600 B. C., the Persians were not distinguished for their horses, but under his encouragement, horse-breeding was carried on extensively. Cyrus, the most magnanimous king of his time, was the first equerry; he instituted the mail service, he had the distance measured in which a horse could travel without becoming fatigued, and there he built relays. At each of these relays a commodious stable was erected, wherein a certain number of horses were kept, which were under the supervision of the most trustworthy and distinguished men of the land. Cyrus, as a rule, did not accept presents, but horses he

never refused. In Babylon the king possessed eight hundred stallions, to each of which twenty mares was assigned. Of the whole Persian kingdom Armenia was so rich in horses at that time that the Satrap sent twenty thousand fillies annually to the Mytra festival. White horses were sacrificed to the sun-god Mytra. The chariot of the sun-god was drawn by eight white horses and was the emblem of peace and justice. The royal chariot was drawn by four.

The Scythians, north of Thrace, were wild horsemen of Mongolian extraction. They sacrificed horses to their gods. They drew the blood from the femoral artery of the horse and drank it; also gave it to their children to drink, so that they would become valiant; they ate the flesh, drank the milk of mares and converted it into butter, cheese and koumiss, an intoxicating beverage. The fleetness of their horses was so remarkable that a horse of a common Scythian soldier could overtake the noblest Persian. Phillip of Macedonia, who conquered the Scythians, took twenty thousand horses from them.

The Italians or Romans also gave attention to all branches of culture, particularly to horse-breeding and horse-racing. Tarquin the First, who laid the foundation of the Capitol, built the Circus Maximus, instituted national festivals, combined with combats, in which the horse assisted his master to win the laurel wreath and thus increased his own fame.

From the beginning, horses were highly prized by the Romans, and to the time of Marius, the horse's head was their standard of battle. Pompey had in his army a mounted elite distinguished for its birth, wealth and bravery. At all times grand pageants and performances given in the circus were the principal amusements of the Roman empire. The Cæsars had a passion for horses and chariots, and during Nero's reign this passion was at its height. The aristocrats vied with each other in the splendor of their horses. "They had their heart and soul in the manger," and "the way to fame and office led through the stable," complained the non-riders. Cæsar 100 B. C. buried his horse, which fell in the battle of Pharsalia, in the same temple which he had erected in honor of his mother. The horse of Varus, 6 B.

C., had a palace and attendants for its own use, wore a purple mantle, received taxes and fed on raisins, nuts and barley. Caligula generally took his meals in the stable, his favorite horse had a stall of marble and a manger of ivory. Caligula appointed his consort priestess of the horse and intended to raise him to consulship. (Voltaire once remarked sarcastically that "the Roman emperor who appointed a horse as consul was not so great a fool as he who places blind confidence in unworthy men.")

Nero, 54 A. D., was the most expert horseman and charioteer of all the Roman emperors, and in his time the horse was more highly valued than other property and slaves. The Celts of Gallia and Helvetia gave great attention to the race of their domestic animals and paid high prices for beautiful horses brought into the country by merchants. When conquered by Cæsar, 55 B. C., the only request made by their conqueror was, that they be allowed to continue their horse-races. The following may illustrate the value of a reliable horse at the time of Clovic: When Clovic conquered the West Goths he made a pilgrimage to the grave of his holiness Martin, to thank God for the victory. Clovic presented the monks with the horse he had ridden on the day of his victory. There being a scarcity of good horses, Clovic soon regretted his generosity and demanded that the animal be returned to him for fifty silver marks, but the monks answered that his holiness prized his gift highly, consequently Clovic was compelled to double the sum to gain his end. Hereupon the barbaric Cymbrian muttered, "his holiness is very generous, that is true, but he is sure to be well paid for his kindness."

Perhaps the most brilliant period for the horse in France was at the beginning of the reign of King Louis XIII. Every castle, country place and villa had a fine pasture and stable attached, which was sometimes more comfortable than the castle itself. At that time, the highest dignitaries in the kingdom considered it an honor to have a position, if ever so insignificant, in the royal stud, and that of equerry was the most enviable in the land. With the abolition of the feudal system through Richelieu, the studs of the country noblemen were neglected and horse-breeding retrograded.

Under Napoleon I. very little or nothing was done to further horse breeding, and his hatred toward England was transferred to the English horse, for he never would mount an English thoroughbred.

With the accession of Napoleon III. royal studs were established, and 1500 stallions, mostly English, were purchased with funds out of the treasury of the government. Normandy is one of the provinces of France noted for its horses. The importation of the Norman horse into the United States has been carried on very extensively in the last thirty years.

In the seventh century the Oriental horse was transplanted to Spain, and by crossing with the Andalusians a new breed was obtained, which was valued as highly as the full blooded English is to-day. The nobility, whether lady or gentleman, was expected to be able to handle his horse, and the school of the Spanish step was the most elegant attainable. Once so rich in horses, Spain can to-day produce but few serviceable horses.

The Arabians of the present day trace the genealogical tree of their horses to the five steeds of Mohammed which rescued him in his flight from Mecca. To the Arabian, the pedigree of his horse is a matter of great importance. The tail of the newly born filly is rubbed so that it will carry it high. At two years of age it is ridden by boys and in the third and fourth year already roughly used, and in its fifth year it is considered perfectly trained, whereupon it undergoes a trial of several days racing, when judgment is passed upon it.

The stallions are generally in the hands of the Sheik. The ordinary man who possesses a steed is considered wealthy. As far as is known, no other horse than the present ever inhabited Arabia, and is the ideal of the fleetest, noblest and finest horse.

In Germany the holy forests were known as the first German studs, and the training of the sacred white horses was in the hands of the priests. At high feasts white horses and human beings were sacrificed. According to the old teutonic belief, the saints had their horse in Wallhalla, which they ride. Death itself is the pale rider.

When the swamps and morasses were frozen, races were held

in every province, to determine which were the best horses; these were then sacrificed to the gods; the second best the king kept for military services. To the time of Karl the Great the original German horse remained unnoticed. As the wealth of the monks increased and the best breeds of horses in Germany were to be found in cloisters, more elegant and gentle horses were raised.

Henry the Fowler, in the ninth century, instituted fencing on horseback and founded the tournaments. In the sixteenth century the carousal took the place of tournaments. Augustus the Strong held carousals on a grand scale.

During the eighteenth century, in consequence of the wars, horse breeding degenerated.

William Frederick II., being well aware of the necessity of becoming independent of foreign countries in regard to horses for the military, transferred the control of the whole stud to Count Lindenau in 1786, who began with the reorganization of Trakeleneu and the establishing of the Litthaneu stud, which gradually attained such fame. Of the breeds of Prussia, those of Litthau undoubtedly occupy the foremost rank; they have taken the place of the old and miserable race, and the horses now used are mostly from stallions bred in Trakehneu. This fine and noble breed, which is admirably adapted for light and heavy cavalry, as also for light harness, has given evidence of its serviceability in three wars.

The earliest records concerning the English horse date from the invasion of Julius Cæsar, at the time which British horses were crossed with the Roman.

Athelstan, son of Alfred the Great, is the first on record who, in 930 received German running horses as a present from abroad, and therefore had more particular opportunity of improving the English stock by the infusion of select foreign blood; he seems to have bestowed some attention on the subject, since he issued a decree prohibiting the exportation of horses without his license.

In a document of the year 1000, we find the relative value of horses in this kingdom, directing—if a horse was destroyed or negligently lost, the compensation to be demanded was thirty shillings; a mare or colt, twenty shillings; a mule or young ass,

twelve shillings; an ox, thirty pence; and a man, one pound. The trinal system of the ancient Celtic nations still continued in use at that time, and may be traced in the laws regarding horses; for to obviate the frauds of dealers, the following singular regulations were in force: the purchaser was entitled to time, in order to ascertain whether the horse was free from three diseases. Three nights possession to determine whether he was not subject to staggers; three months to prove the soundness of his lungs, and one year to remove all apprehension of glanders. For every blemish discovered after purchase the dealer was liable to a deduction of one-third of the money, excepting in obvious cases, such as where the ears or tail were defective. Compensations were likewise granted in cases of injuries done to hired horses. We find even among the enactments that "whoever shall borrow a horse and rub off the hair, so as to gall his back, shall pay four pence; if the skin be forced into the flesh, eight pence; if the fleeh be forced to the bone, sixteen pence."

In the year 1121, during the reign of Henry I. the first Arabian horse was introduced. Notwithstanding the decree forbidding the exportation, which existed since the time of Edward III., this king favored a German by allowing him to buy several horses and take them with him to his own country. Toward the end of the fifteenth century Henry VII. allowed the exportation of inferior stallions and mares.

Under Henry VIII. the neighboring magistrates were ordered at Michaelmas tide to "drive" all forests and commons, and eradicate all horses which were under size; by this measure, however, horse breeding deteriorated and Queen Elizabeth, a short time after him, could muster only 3000 in her cavalry. Gradually England made great progress in the improvement of the horse, and under Queen Victoria Great Britain enjoys the reputation of being second to none in the world in horse breeding, and its fame in rearing and improving breeds will be handed down to posterity.

Richard III. once said, "A horse! A horse! My kingdom for a horse."

Now there are horses with which kingdoms could be bought, horses which whirl up gold dust from under their feet, horses

whose gallop overthrow old baronies and build up new castles. The horse race! A magic word, which stirs up the heart, the spirits of a whole nation by a great deal more than in the days of the Olympics, where an ivy wreath was the reward of the victor, when a young and poetic people found pleasure in the noble horses of Elis, and at the same time in the songs of Homer and Orpheus.

The thirst for the unknown which consumes civilized man has never been better quenched than by the uncertain eventualities of the turf; this mathematical study as to the fate has never been carried to such an extent as in a stud book or in a racing calendar.

The horse was the original symbol and instrument of chivalry, an institution which flourished in the middle ages in England, France and Germany.

The knights bestowed great attention and care upon the breed and training of their horses, and all kings and princes issued proclamations to the effect that the landed estates of all chevaliers who defend their country with the sword and helmet are free from taxation, provided they furnish weapons and horses for the service and protection of the fatherland.

A chevalier stood in the same rank as a prince, and it has been noted that many titles are derived from the word horse, or the use to which it was destined. Chevalier, from the French cheval; Ecuyer, from the Latin equus; Marquis, Marechal, Marshal, from the Geltic and German March; Counitable, from the Latin cones stabuli—provost of the king's stable; Duo, chief of the cavalry.

Cities were also named after studs, as Argyle in Scotland is presumed to be derived from Are–gael, the breeding or horse stud of the gael. Brovisel is said to be derived from broeden—breeding; Broisel—for such is the interpretation of Brussels—the site where the city stands being anteriorly a breeding pasture, formed by the Counts of Lonvain before Brabant was raised into a Duchy. Stuttgart in Wurtemburg has its name from Stutengarten.

In the early ages and to the end of the first thousand years, the horse was mainly used for war. During the last centuries its original purpose became more and more diverted until at last it is

destined to serve in the interest of peace. As the commercial intercourse widens, the supply of horses is inadequate, and the continual progress in agriculture gradually demands a greater number of more steady and tractable animals, whose principal qualifications consist in the development of great strength. To-day, the importance of the horse as a domestic animal has increased, but as regards historical significance it has lost, inasmuch as it has no longer the only factor for the transportation of nations. Steam has superseded it.

KERATITIS CONTAGIOSA IN CATTLE.

By Frank S. Billings,

Director of the Patho-Biological Laboratory of the State University of Nebraska.

This is not a new disease by any means, so far as the United States are concerned, nevertheless I have been unable to find any description of it in the literature at my command.

While new to myself until the last summer, there have been quite a number of reports of its existence, and complaints about it from farmers and breeders of cattle in some of the live stock journals of our western States. Under the circumstances it would seem that a description of its clinical phenomena and gross pathological lesions may not be without scientific interest to the ophthalmologist, and have some practical value as well, especially as experience has shown that the extension of the disease over the members of a herd of cattle can be easily prevented by isolation measures, and its course much shortened by the mildest and simplest therapeutic treatment.

History.—During the past year three quite extensive outbreaks have been reported to me in Nebraska; one having been at Kearney, and another at Gibbon in Buffalo County, while a third occurred in the immediate vicinity of Lincoln, thus giving an opportunity for some personal observations. Of the outbreak at Kearney the owner wrote me that the trouble appears to begin as a small spot on the eye-ball, the eye running and gradually growing worse, showing a purplish color, and becoming very sore; the

pupil seems to protrude as though proud-flesh, or something of that nature grew in the center! The above will be found to be an unusually good description from the hands of a layman.

The disease first appeared in the vicinity of Lincoln, in a herd of dairy cows, about July 1, 1888. Its extension over them was very slow indeed, and although there were several horses among the cattle, or exposed to more or less danger of infection, the disease did not extend to them, nor to the men milking and caring for the animals. Up to October first ten cows, out of about seventy-five, and seventeen calves, had become affected, when my observations had to cease on account of important engagements elsewhere.

Clinical phenomena and gross pathological lesions.—The disease first manifests itself by the discharge of a thin, clear watery fluid from the conjunctival sack; marked photophobia is an early symptom, the eyelids being closed and somewhat swollen, though the afflicted animal can open them easily enough if startled, and has complete control over their movements; the discharge rapidly increases in quantity, the conjunctiva becoming more and more swollen until, in some cases, the engorgement of the vessels become so intense, that its general color is almost a diffuse copper red; (this has not been shown in the accompanying illustrations on account of the unfortunate necessity of all possible economy in the number of cuts;) in very severe cases the discharge becomes purulent. While a careful examination of the diseased animals has shown that the rise in temperature is but very slight, still they present phenomena which the casual observer might mistake for those of high fever; their heads are held depressed, the ears become pendulent, and they refuse to eat and rapidly emaciate, while the yield of milk lessens materially; these conditions augment during the first eight or ten days; the photophobia correspondingly increasing; instead of fever, they must be attributed to the severe pain which the animal is suffering; intra-ocular pressure is present to an excessive degree, but the cause thereof is entirely to be sought in a marked increase in the quantity of fluid in the anterior chamber of the eye, the corner of which becomes distended and very prominent. While the disease has

Fig. I.

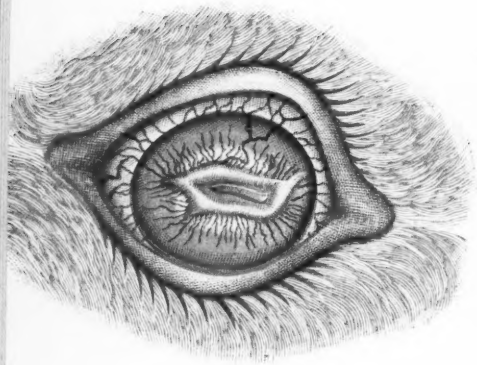


Fig. II.

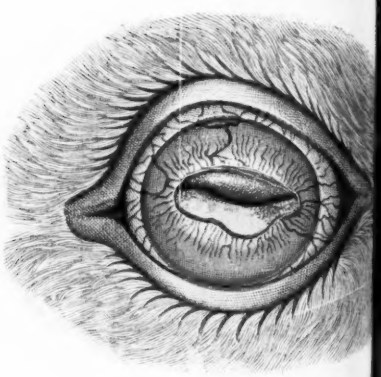


Fig. III.

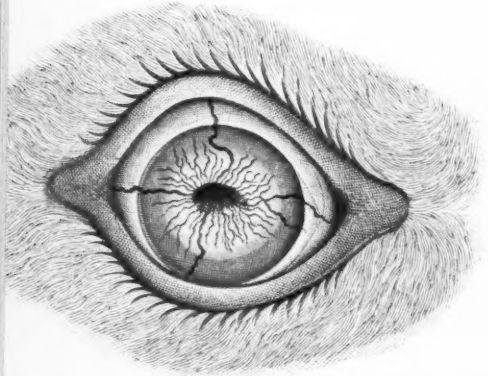
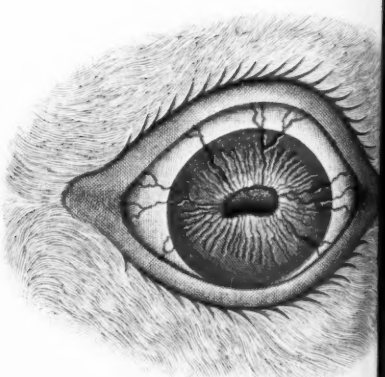


Fig. IV.



KERATITIS CONTAGIOSA IN CATTLE.

never been reported to me as beginning in both eyes at one and the same time, still in almost all cases it has been noticed to extend to the other eye. At about the second or third day from the time the first eye has been observed to be affected, a very delicate cloudiness makes its appearance at or near the center of the eye, which continually increases, the membrane becoming thicker and thicker, and more and more opaque, which conditions gradually extend to the sclerotic edges; this center is at first of a pearly white color, and in some cases may not become more than a creamy white, being much thickened, but in many a small yellowish speck will be seen to form, which gradually becomes larger, the tissues over it becoming thinner and thinner; this yellowish spot will be seen to be surrounded by a wall of thick, swollen, indurated tissue of a white color, while outside of this wall will be more or less pearly white substance, losing itself in a bluish white tissue as the peripheries of the cornea are approached; see Fig. 1. (It will be self evident that all three fine points of shading could not be illustrated to perfection except at great expense, hence the reader must make due allowance for illustrations in which it has only been endeavored to show the essential points). From this indurated tissue, which encloses the apostematous center, may be seen numerous delicate blood vessels taking their course, in a serpentine manner, towards the scelerotic edges of the cornea; this vascularization is often so intense as well as so delicate in the character of the neoplastic vessels, as to give to the tissues a diffuse dark red color, even to the degree of hiding the larger vessels from sight; in fact, so extreme may this become that it will take careful observation not to be misled in assuming the existence of an excessive intra-corneal hemorrhage completely filling the anterior chamber of the eye. *The latter never occurs however.* As the processes increase in intensity, the yellowish center increases in extent, and always in a direction across the eye from side to side, and then below the same will be seen a mass of intensely vascularized tissue, much swollen, but still the overlying tissues will retain their normal lustre, or nearly so, while those over the yellowish center have become very thin and lustreless (Fig. II.); in many cases these abscesses rupture and the contents

at once escape; the rupture is invariably of the external tissues at first, the augmented amount of fluid in the anterior chamber exercising a perfectly equal pressure against decemetic membrane, preventing a rupture in that direction; but when the abscess has been unusually extensive, the tissue forming its inner wall are too thin to resist this pressure, and a rupture soon follows with escape of the aqueous humor, and prolapsus of the lense followed by the utter destruction of the complicated organ. In the majority of cases this fatal termination does not occur, but from the ruptured edges of the external walls and base of such an abscess the development of granulation tissue begins and extends across the cavity, completely filling it up and projecting to a considerable degree beyond the level of the surrounding tissues. Naturally the size and shape of this mass will vary with the size and shape of the original abscess and extent of the rupture. Such conditions have been illustrated in Figs. III. and IV. From these granulations the previously mentioned vascularization may be seen extending in all directions towards the peripheries of the cornea. To one observing this disease for the first time, and before a complete examination of a severely complicated eye has been made, the most natural hypothesis would be that there must also be very extreme complications of the internal portion of the organ. He would find himself entirely mistaken, however! *Aside from an œdematous condition of the iris, the internal portions of the eye remain absolutely normal.* Even the aqueous humor, while increased in quantity, remains as clear and pellucid as the clearest of distilled water, as I have tested in every case by the careful withdrawing of the same with a sterilized glass barreled syringe; the most exact microscopical examination has failed to reveal the presence of a single leucoyte.

Termination.—Singular to say, notwithstanding the apparent severity of the external lesions, with the exception of the rare cases in which complete rupture of the cornea with prolapsus of the lense occurs, there is, or better perhaps, has been, an absolute return to normality and complete reacquisition of sight. Where no rupture has occurred, or where there has been no accumulation of pus, the first step towards restoration is a decrease in the cali-

bre and number of the neoplastic vessels, with a clearance of the cornea at its peripheries, which slowly but surely extends toward the centers, until the entire organ is again as transparent as could be desired. Where there has been a rupture and the cavity caused thereby filled by granulation tissue, the same process occurs, and the same phenomena are seen, the vascularization decreasing, and the granulation tissue becoming more and more anæmic and less and less prominent, until it finally entirely disappears, its place being at first represented by a yellowish white, then white and finally opaque pearly spot, which eventually disappears entirely, epithellium having again completely covered the spot, and restitution is perfected in a manner seldom if ever seen in any process of wound healing where the previous lesions have been of such apparent severity.

I will here remark that all these conditions have been followed step by step by microscopical studies made upon eyes removed at every distinct phase of the disease, but that it is my purpose to reserve their description for another paper, as well as some remarks as as to a micro-organism present in the tissues. Cultivation attempts have thus far been futile, however.

Nature.—The extremely slow manner in which this disease extends over a herd of cattle has been previously mentioned. No less remarkable has been the (in my experiments) absolute impossibility of intentional transmission of the disease from afflicted to healthy animals. For example, completely sterlized plugs of absorbent cotton were placed in the conjunctival sack (of a bull recently affected, but with a very profuse discharge) until completely saturated; in one case such plugs were placed within the same sack of the eye of a healthy calf, while in another the cornea had been previously scarified with a sterlized lancet; notwithstanding the lids were held closed for five minutes in each case by attendants, *the results were absolutely negative.* The aqueous humor of the eye of a diseased calf having been withdrawn with a sterlized syringe, was injected into the anterior chamber of the eyes of a rabbit, and, as well as possible, into the tissues of the cornea of another, with the same unsatisfactory results. They do not, however, have any value as evidence against the conclusion that

the disease is of a contagious character. For this, its appearance in a single individual, at first, and its very gradual extension, while were it due to any specific, though external cause, where all the animals are banded together and have the same treatment, a more general eruption would certainly occur.

Prevention and Treatment.—Complete isolation of the diseased from the healthy animals will cut off the extension of an outbreak with the most happy results. All the treatment necessary is a dark place, and cloths constantly hanging over the eyes, kept wet with cold water all the time. This treatment lessens the severity of the disturbances, and hence tends to shorten the period of restitution.

The application of any washes or remedies inside the conjunctival sack is not only useless but harmful, as the animals resist it all they can, and hence the danger of the introduction of irritating foreign material is increased, and even the endeavor to lift the lids, or handle the eye must be looked upon as having an injurious tendency.

PARTURIENT APOPLEXY.

By T. D. Hinebauch, V.S.

Extracted from Bulletin of Experimental Station of Indiana.

Synonyms.—Parturient Apoplexy, Milk Fever, Puerperal Fever, Calving Fever, Dropping After Calving.

Causes.—The causes are predisposing and exciting. Among the first may be mentioned high condition; well fed cows, especially heavy milkers, suffer most seriously and extensively from this disease. One attack usually predisposes to another. Age has a great influence, parturient apoplexy being most often noticed from the third to the seventh calving. The exciting cause is the act of parturition.

Symptoms.—The first symptoms are usually manifested at from one to three days after calving. The sooner they are developed the more serious and fatal will be the disease. There will be diminished secretion of milk, hanging of the head, loss of

appetite, and paddling with the hind feet. As the disease progresses the breathing becomes hard and loud; there will be knuckling in the fetlocks, and finally the animal drops; will perhaps rise, then drop, and will be unable to rise again; breathing becomes slower, accompanied by a peculiar moan. The eyes are blood-shot, wild and staring; the ears, horns and forehead hot, the extremities cold. At first the cow dashes her head about violently, but finally becomes quiet and insensitive to surrounding objects. The head will be thrown around, resting against the side with the nose upon the ground. In some cases the cow lies on her side with the head and legs outstretched. The power of swallowing may be lost or imperfectly maintained. The pulse, at first full, gradually becomes quick, small and almost imperceptible. During the first stages there is slight fever, but the temperature soon falls below the normal; the bowels are constipated, with retention of urine. These symptoms will run their course in from two to twenty-four hours.

Treatment.—The treatment which I recommend is that which I have successfully used the past two seasons, and which can be applied by any one who handles cattle. My attention was first directed to it by an article in the London *Veterinary Journal* for August, 1887.

The first thing necessary is to place the animal in as near a naturally recumbent position as possible, keeping her in place with bundles of hay or straw. Place a rope around the horns and fasten the head so that it will be held in a natural position, then give at once (1) twenty to thirty ounces of whiskey or a pint of brandy, well diluted with warm water. About half an hour afterward administer (2) from one to two pints of good molasses dissolved in hot water. The molasses creates thirst; the animal will drink greedily two or three hours after it has been given, and should then be allowed plenty of good pure water. Apply plenty of ice or cold water to the head. If cold water, see that it is applied every ten minutes. A common grain sack wrung out is very good. If the cow is inclined to keep dashing her head about, apply a check rope to the horns, in order to keep her from bruising her head or breaking off the horns. Do not at-

tempt to draw the milk, for there is none secreted. If the animal is not comatose, repeat the dose (1 and 2) in four hours, and continue doing so every six hours until you see her recovering. In my experience, with one exception, I have never given more than two doses, one sometimes being sufficient, recovery usually taking place in from twelve to thirty-six hours. Pure alcohol in one-half the dose may take the place of the whiskey or brandy. The body should be kept warm with plenty of light woolen blankets.

Veterinary surgeons or those who have hypodermic syringes will get excellent results by injecting ten grains of pilocarpin combined with two grains of physostigmine (eserine), in which case remedies 1 and 2 need not be employed.

Intertrachial injections give better and quicker results than when injected under the skin.

If the above treatment is resorted to in the early stages of the disease, before the power of swallowing is lost, nearly every case will recover.

Prevention.—This disease is easily prevented, but somewhat difficult to cure. For two weeks previous to calving diminish the food. Keep the bowels active by small doses of epsom salts or a laxative diet. Avoid all highly nutritious food. The common practice with some people of giving extra feed at this period to increase the flow of milk is, without doubt, the most prolific cause of this disease.

THE USE OF NARCOTICS IN PAINFUL OPERATIONS.

By Prof. Dr. Esser.

Translated by John Faust, V.S.

He enumerates the many painful operations on domestic animals necessarily prolonged in operation. His experience convinces him that all operations under narcotics can be done more successfully and in less time than without them. The following is the method used by him on over two hundred horses, with uniform and satisfactory results: He used ether and chloroform together, and most generally a third, namely, morphine.

A few minutes before the operation he injects 0.5–0.8

gram. morph. hydrochlor. He next throws the animal, and then uses the narcotics. Out of the many methods of etherizing he uses the following:

He places a cloth under the upper lip, turns it over the onstrils and pours on the chloroform and ether. He has usedthis method ten years with the most gratifying results. The use of sponges, the Doctor says is always associated with a great amount of struggling, and invariably a nasal catarrh follows that method. The average amount to chloroform a horse is 100 gr., and especially, as mentioned before, if an injection of morphine preceded. In the two hundred mentioned cases, he never had any bad effects from its use. He always excludes heart-disease, very fat horses, and analmia in his use of narcotics. He is very particular that nothing prevents the free respiration. In case of any irregularity in breathing, he stops the chloroform, and uses artificial respiration, and dashes cold water over the head. This method has always proved satisfactory. A second narcotic is meutioned by him, namely the chloralhydrate, but in his experience it never produces complete anæthesia. It was used in the following manner: From 100 gr. to 160 gr. in flaxseed decoction and injected into the rectum. He followed the advice of Cardeac and Malet, and combined the morphine with it, and used it as follows:

First the morphine injection. Then from 70 to 80 gr. chloralhydrate injected per rectum with the flaxseed decoction. He used this with satisfactory results on over thirty horses, but positively states that he never produced complete anæsthesia with chloralhydrate and morphine as he did with chloroform and ether. Nevertheless, he advised the use of chloral in such cases where chloroform and ether are dangerous. He closes with emphasis and appeals to humanity, that we, as veterinarians, should make more use of narcotics than we have done. The esteem and elevation of our profession can thereby only be obtained.—*Der Thierarz.*

PHYSIOLOGICAL PATHOLOGY.

ON THE CONTAGION OF OVINE VARIOLA.

By M. Peuch.

1.—*Virulency of the milk of varioloid ewes.*—Among the questions relating to the contagion of this disease, that of the virulency of milk has never been fully elucidated. It is known only that lambs suckled by ewes affected with variola at times take the disease; but, in this case, the effect of the milk in complication with that of the cohabitation is involved, and consequently, to determine whether any separate action has taken place in the milk, it is necessary to know if it has possessed any virulent properties. In investigating the subject with this view, the following experiments were made:—The milk obtained from an ewe inoculated fourteen days previous with varicola, and which had, as yet, no eruption on the udder, was injected under the skin of three ewes, and the inoculation was followed by an eruption of variola, a large pustule appearing at the point of insertion. But two other ewes, treated in the same manner, remained healthy, and yet were refractory to infection, as was proved by direct inoculation with the pure virus.

These experiments show, 1st, that in variola the milk is virulent, and, 2d, that the effects of the virulency are manifested only by the inoculation of a large quantity of the material injected, and that the intensity of the effect is in proportion to the quantity of virus inoculated.

2d.—*Animal Species Susceptible to Variola.*—According to Zundel, it is transmissible to goats, to cattle and to rabbits, though most veterinary writers consider it specially characteristic of the ovine family. Gatier, while of the same opinion, thinks that in some cases it may, "though with difficulty, be transmitted to goats, and perhaps to bovines, or even to rabbits and fowls." In elucidating this question, the author inoculated a goat, four heifers and sixteen rabbits with fresh and very strong virus. The inoculations were made both under the skin and under the epidermis, but none of the animals, except the goat, experienced any effect from the inoculation. Some small furunculous pim-

ples appeared at the point of inoculation, but no disease could be produced by direct inoculation with the fluid contained in these furuncili. According to these experiments the disease is not transmissible either to cattle or to rabbits, at least by the sub-epidermic method of introducing the virus.—*Journ. Soc. Scientif.*

MICROBISM AND ABSCESSES.

By Mr. Verneuil.

It is held, to this day, as the result of former studies, that pus is not exclusively characterized, in its anatomical point of view, by its corpuscules, since it also contains microbes, which on account of their frequency, seem to belong to general pyogenesis. According to all appearances, they form its unique and real cause, as when experimentally introduced in the organism, they give rise to suppuration and to abscess.

Pus is at times *mono-microbic*, and contains but one kind of microbe, and again may be *poly-microbic*, and contain several different kinds and species.

In the first case, there is no doubt in respect to the pyogenic property of the microbe found; but in the second, it has been impossible, as yet, to decide whether all the microbes observed or only a portion of them are liable to produce suppuration. Until this problem is solved, the author thinks it proper to divide the microbes now known and found in abscesses, into two categories, the first including those which are so often, so singularly, and so commonly observed in suppurations, that they are properly considered as normal and necessary, if not exclusive, and which may consequently be denominated *pyogenic microbes proper;* while the second class consists of those which are but occasionally and irregularly encountered, and may be called *microbes accidentally pyocolous.*

By this method the old classification of abscesses, based more upon the results of clinical observations than referring to the origin of the causes and nature of the diseased process, is replaced by a more natural and a simpler theory, based upon the etiology of the pyogenesis as well as upon the pathological ana-

tomy and physiology of the abscess and its contents, and the following division is accordingly proposed:

First.—The *simple abscess*, developed under the unique influence of normal pyogenic microbes, containing no others, and exclusive of all others.

Second.—The *infected abscess*, due to the influence of either normal pyogenic microbes, or of pyocolous microbes, evidentally pyogenic, but characterized by the presence of this last with all the consequences of this microbian justaposition.

This division has a certain parallelism with the old method of *idiopathic* and *symptomatic* abscesses, but is preferable because it is better defined, and rests upon the precise presence of the elements which give to the pus its various characters.—*Journ. Soc. Scientif.*

REPORTS OF CASES.

EZERINE.

By W. H. Pendry, D.V.S.

On March 3rd I was called to see a bay gelding, five years old, said to have received an injury in running away. I found the horse down, laying perfectly quiet, being unable to rise, the hind legs when lifted would lay just where they were placed, there being no sensation on pricking. The history I received was that he was one of a newly bought team, that he had shown a very nervous disposition that morning and that while being driven had shied at something, got the best of the driver, and run into an iron fence, which was badly broken; the bay dropping down with apparently only a slight flesh wound of the thigh, made by a portion of the broken iron rail. I made an examination of the back for injury to the spine, but could find no indication of any; not being able to find a specific cause for the loss of power behind. I declined to order the destruction of the animal, stating that it was possible that it was due to nervous shock. The owner's stable being near, I had him removed in the ambulance and placed in a well littered box stall, made a more careful examination and could find no visible injury, except the

wound spoken of, which was about two inches deep, and a soreness on the off side, back of the ribs. I took the temperature and found it to be remarkably low,—91½— pulse weak. I gave an intravenous injection of alcohol and attempted to sling, but I found it useless. I had the patient well bedded down, mustard applied to spine, and before leaving, injected hypodermically about a tenth of a grain of atropia in solution. Visited again in about five hours and found him easy, circulation apparently much improved, resting well, drank about half pail of water, bowels having recently operated. Next morning found heart beating violently, temperature 95°; injected hypodermically two minims tincture aconite, which very soon had a quieting effect on heart. The muscles of the gluteal region responded to pricking. The following day found patient resting well, neighed for water, which he drank, breathing easily; action of heart and temperature normal. Injected introtrachea two grains eseridine, had patient turned over, and ordered to be notified by telephone of any change. I received word about six hours after to the effect that things were about the same and that there had been no passage of the bowels. Next day temperature normal, unmistakable return of sensation to the hind quarters. On pressing hind legs from foot, could feel considerable pressure being given, and on examination of wound in thigh, slight movement of hind legs could be noticed. Gave intravenous injection of one grain of eseridine. Saw case same evening, resting quiet, had evacuation of bowels. Early next morning received word that patient was very uneasy and breathing hard, and on visiting found as reported. Horse neighed; gave water, which he was unable to swallow; as case was evidently hopeless I pithed, deciding to hold the post mortem as soon as possible, which was next morning and resulted as follows:

On removing skin the only visible contusion found was one on the off side. A careful examination was made of the spine for fracture, etc., but not the slightest injury could be found; dissection of hind leg and abdominal cavity gave no solution; on opening thoractic cavity found nothing except both lungs passively congested, but the outer membrane of the off lung was of a very

bright green, not extending into the lung tissue. I was curious to see if the intra-trachea injection of eseridine had had any effect on membrane, so made a longitudinal incision and found the posterior half of the trachea of the same bright green color, just as if a paint brush had been taken from one end to the other, touching only the back half. I then dissected spinal cord, but could discover no abnormal condition, so that the only satisfaction I received was verifying my opinion as to no injury to spine; offset by a ponderous interrogation of the whole case.

DENTAL EXOSTOSIS.

By Frank Allen, *Student.*

On the 9th of February an aged bay gelding was brought to the American Veterinary College for dissecting purposes and on the 11th of February, when placed on the table and about to be destroyed his breath was found to have a most offensive odor, and a muco-purulent discharge was observed from the left nostril; he had eaten all right from the time he was brought in, but no previous history could be obtained. The diagnosis of a decayed tooth was made and on post mortem the following lesions were observed:

The fourth upper molar on the left side was found loose and a very slight pull with the fingers brought it from the alveolus, which was extensively diseased and ulcerated, the mucous membrane and hard palate was thickened and discolored round the diseased tooth. On making a transverse section of the skull at the level of the fourth molar there was noticed between the superior and the turbinated bones, in the middle meatus, an irregularly shaped bony mass about two inches in circumference and weighing between two and three ounces; it was one and a half inches from the roof of the diseased molar. The pressure of this mass had caused necrosis and absorbtion of part of the superior turbinal and partial absorbtion of the nasal bone above it, making a shallow depression not noticeable from without. The septem nasi, on a level with this mass had a circular hole the size of a fifty-cent piece, communicating with the right nostril, and the whole of the mucous membrane was thickened and congested. The bony

partition between the inferior maxillary sinus and the nostril was absorbed, clearly showing that at one time the growth had been attached to the fang. The crown of the molar was perfectly normal. On making a section of the mass it appeared to be composed of material resembling crusta petrosa.

John Tomes, in Dental Physiology and Surgery, says: "Dental exostosis is caused by irritation of the periosteum, due in a great majority of cases to caries, and arises from the crusta petrosa."

EXTRACTS FROM FOREIGN JOURNALS.

CONTAGIOUS PLEURO-PNEUMONIA OF GOATS.

By Mr. Duquesnoy.

Two sickly female goats were introduced amongst the animals of a flock whose milk was sold in the streets of a city of Southern France. A few days later four of these goats had died, and all the animals were more or less sickly. They ate less, gave less milk, coughed, and had a discharge from the nose.

Two of the worst cases presented the following symptoms; Great emaciation; skin dry and warm; eyes sunken and running; conjunctiva injected; a discharge from the nose, abundant and gummy; mouth warm and congested; breath offensive; respiration difficult and painful; cough frequent and deep; pressure on the chest and percussion painful and dull; pulse 120; lactation and rumination suppressed; diarrhœa fœtid and greenish; temperature 103°.

Post-Mortem.—Intestinal tract about normal; both lungs hepatized; in the right pleural sac, effusion and pleural adhesions; on the left, adhesions only; sections of the lungs show a marbled appearance, of various colors, forming spots of a reddish and brownish aspect, separated by infiltrated and hypertrophied interlobular connective tissue; the pericardium congested, with some ecchymotic spots on the cardiac serous membranes.

From the symptoms and the lesions, the author concludes upon a diagnosis of contagious pleuro-pneumonia.—*Journal de Zootechnie.*

INFECTIOUS PNEUMONIA OF HORSES.

By Messrs. Chrantemesse and Delamotte.

This disease is very common in some parts of Europe, especially in France, where it prevails under an epizootic form amongst young horses of three and five years of age, and is in many cases very fatal. Those which recover obtain immunity. The authors made punctures in the lungs of two living horses with a sterilized trocar, and they found in a culture of the pleural liquid, and from the pulmonary fluid, a microbe, having pathogenic properties and characters still undescribed. This organism was found in great quantities and in the pure state, in sections of the diseased lungs. It readily colored by the method of Weighert. It belongs to the class of streptococcus, but is distinguished from those already known by its great virulency, and by its property of dissolving the serum which it produces in the animals where it grows. A drop of culture inoculated under the skin of the ear of a rabbit killed him in thirty-six hours, without leaving any trace of suppuration. A short time before death the blood escapes from the mouth and nose of the sick animal, and at the post-mortem an abundant exudation formed of serum which had dissolved the hemoglobine was found in the pleura, the pericardium, the peritoneum, etc. Half a drop of culture in the trachea of a rabbit killed him in twenty-four hours, with a generalized broncho-pneumonia.—*Journal Soc. Scientif.*

CHLORHYDRIC PILOCARPINE IN ACUTE LAMINITIS.

By Mr. Frus.

The author has employed this drug with success in the treatment of this affection, and reports thirteen out of fourteen animals laid up, as making a complete recovery in from twenty-four to thirty-six hours. The dose, injected in the sub-cutaneous cellular tissue, varies between forty and seventy-five centigrams. Only two cases required a second injection. A strict diet and stimulating frictions of camphorated alcohol is also indicated.—*Deutsche zeitschrift fur Thiermedicin.*

PROLAPSUS UTERI IN THE COW.

By Mr. Koubelda.

A case of this nature had resisted all forms of manipulation, and as a dernier resort, the following treatment was adopted, with perfect success. After carefully washing the mucous membrane with a solution of alum, the operator procured a large snowball, which he pressed against the organ at its most dependent extremity, slowly pushing it inwards and upon itself. This, however, appearing to work with difficulty, the organ was pushed upwards and inwards with a deep plate full of snow pressed against the vulva, while with both hands the mass was compressed and guided, and a few minutes perseverance in this manipulation effected a complete reduction. A few balls of snow pushed into the uterus and replaced by others as soon as they are dissolved, may always be relied on for effecting a complete recovery in similar cases.—*Mon. des Vereines der Thierarzte.*

TREATMENT OF BOVINE ACTINOMYCOSIS WITH IODIDE OF POTASSA.

By Mr. Furthmeyer.

This affection is very difficult to cure. Professor Thomassen claims that it is only in cases where the local application of iodine is combined with the internal administration of iodide of potassa that recovery can be looked for. Mr. Furthmeyer has prescribed the iodide to three cows affected with actinomycosis, giving ten gramms daily in a quart of tepid water. After the first dose, one of the cows stopped eating for twenty-four hours and the salivation diminished in all of them on the second day. On the fourth day it had entirely stopped, and at the same time a general eruption, with abundant thick mucous nasal discharge took place. The treatment was then suspended for two days, and resumed and continued again for six. The yellowish ulcers which existed before the treatment had become whitish, hard and painless to the touch. One of the cows lost the entire lingual epithelium. The disease disappeared, seven animals which were treated in the same manner all recovering.—*Ibid.*

TREATMENT OF TETANUS.

By Dr. Moret.

Translated by F. W. Turner.

The treatment consists in taking a rubber tube, about five feet in length and half an inch in diameter, one end of which is drawn over the neck of a long two ounce bottle, containing six drachms of ether, and the other end is introduced into the rectum about eight or ten inches. The bottle is then placed in a can of boiling water, and the ether is slowly evaporated, which will be accomplished in about fifteen or twenty minutes. This procedure is repeated four or five times a day; and to improve the treatment, half an ounce of chloral is given once a day in a liquid bran mash. Besides this, the patient is to be placed in a commodious box stall, and kept completely dark. The result of the treatment will soon show itself. Under the constant influence of partial anæsthesia, the temperature will soon commence to fall, the pulse falls below the normal in the course of two or three days, the spasmodic contraction becomes gradually less, and in twenty to twenty-five days we may look for recovery. From six horses, treated in this manner by the writer in a year, five completely recovered, of which two suffered from complete tetanus, and three from trismic tetanus.—*Der Thierarzt.*

COLLEGE COMMENCEMENT.

AMERICAN VETERINARY COLLEGE.

The fourth day of last month was the occasion of the commencement exercises of the American Veterinary College, and Chickering Hall, as in previous years, was the place selected for the observance. The stage was handsomely decorated with numerous magnificent floral designs, and the excellent orchestra of the Seventh Regiment executed a selected programme composed of the choicest gems contained in the repertoire of that unsurpassed band. The meteorological conditions out of doors were decidedly adverse, the rain pouring in torrents, though not quite in sufficient floods to drown out the interest of a sufficient number

of the friends of the college and relations of the students to overcrowd the spacious hall, which they more than filled. Punctually at eight o'clock, the Board of Trustees, led by President F. D. Weisse, M.D., and followed by the entire Faculty, entered the room by one of the side doors, while by an opposite entrance appeared the graduating class, led by its marshal. The officers of the college ascended the platform, and the inchoate graduates found their assigned places in the front seats of the parquet. The opening prayer by the Rev. Dr. Duryea was followed by the act of conferring the degrees by the President of the Board of Trustees, the names of the successful candidates being announced by Professor A. Liautard, the dean of the faculty. Forty-three graduates responded to their names, and received the much-covated diplomas. These were:

Allen, Frank..... St. Paul, Minn.
Bates, Harry Ellsworth..... .....New Haven, Conn.
Brownell, Waldo Howland.....New Bedford, Mass.
Brodhead, Lewis Jacob.....Stone Ridge, N. Y.
Buckner, George William.....Liberty Centre, Ind.
Burnett, Theodore Addison.....Springfield, Ohio.
Campbell, Edwin Taylor.....Tarrytown, N. Y.
Campbell, Samuel Maurice.....Pottstown, Pa.
Case, Josiah Corwin.....Peconic, N. Y.
Cochran, Matthew Hallinan.....New York, N. Y.
Doyle, William Francis.....New York, N. Y.
Driscoll, Harry O.....New Haven, Conn.
Ellis, Robert Walter.....Paterson, N. J.
Fagan, Gulian Clement.....New York, N. Y.
Farnum, William David.....Waltham, Mass.
Greely, Frederick Doran..... .....New Bedford, Mass.
Griffin, Gerald Edward.....Fort Robinson, Neb.
Hall, Charles..... .....Randolph, N. Y.
Hart, Walter Lawrence.....Philadelphia, Pa.
Hanson, Harry Dennett..... .....New York, N. Y.
Hausser, Herman.....Jersey City, N. J.
Hooker, John..... .....New Baltimore, Mich.
Huhne, John Augustus..... .....Kingston, N. Y.

Jamieson, Charles.....Brooklyn, N. Y.
Jarman, George Allen.....Chesterville, Md.
Joerg, Edward Fred'k Chas.....Oleona, Pa.
Johnstone, James.....Dobbs Ferry, N. Y.
Lee, John Thomas, M.D.....Minneapolis, Minn.
Leis, Robert L.....Newark, N. J.
Letts, Richard Runyon.....Hoboken, N. J.
MacMurdo, Chas. Douglas.....Charlottesville, Va.
Mellows, William Francis.....Sing Sing, N. Y.
Morris, Harry.....Providence, R. I.
Morrison, Richard Rundle.....Sidney, Australia.
Nicolas, Nicolas Louis Jos.....Sarreguemines, France.
O'Connor, Morice Edwin.....Denver, Col.
Ogle, Joseph, Jr.....New York, N. Y.
Partlan, Thomas Stephen.....Rondout, N. Y.
Stanbrough, Clarence Peter.....Newburgh, N. Y.
Summy, Harry Balmer.....Manheim, Pa.
Martin, Joseph Tewey.....Irvington, N. Y.
Thompson, Albert Joseph.....Lebanon, Ohio.
Vanderveer, George Glover.....Brooklyn, N. Y.

This ceremony being concluded, Professor Doremus stepped forward, and in his usual pleasant manner, announced that the time had come for the delivery of the prizes, and upon opening the various sealed envelopes containing the names of the fortunate competitors, the following were revealed:

For the prize of the Board of Trustees, viz.: A gold medal for the best general examination, Dr. Harry Dennett Hanson.

For the prize of the Faculty, a gold medal for the best practical examination before a committee selected from amongst the practitioners of New York city, Dr. Joseph Ogle, Jr.

For the Alumni Association prize, a set of standard veterinary books for the second best general examination, Dr. Gerald Edward Griffin.

For the anatomical prize, a case of instruments, for the best anatomical preparation, Dr. Richard Runyon Letts, and for the College Medical Association, a box of instruments for the best paper read and defended before the Association, the prize being

offered by its President, Dr. George Glover Vanderveer.

The valedictory address followed by Dr. A. J. Thompson, of the graduating class. This was one of the best valedictory addresses ever pronounced by a young man before a similar audience, and the delivery was of corresponding excellence with the conception. The class was then addressed by Mr. T. G. Agar, whose remarks showed a careful study of the importance of veterinary science, and proved to be a very interesting feature of the exercises. The benediction pronounced by Dr. Duryea terminated the proceedings, which were of a character to give a high degree of satisfaction to all who were privileged to be either participants or spectators.

CORRESPONDENCE.

THE CALIFORNIA ASSOCIATION STATES HER CASE.

San Jose, Feb. 8, 1889.

Editor American Veterinary Review :

Sir.—In the January number of your valuable journal I read with surprise and regret a communication criticising the editor for a kindly notice of the "California State Veterinary Medical Association," and also criticising the organization itself. As a member of that Association, and being one of the particular members designated in the article as non-professional, perhaps it would not be out of place to offer some defense, and explanation of how the society came to have an existence.

Something near a year ago, two or three veterinarians, all M. R.C.V.Ss, in San Francisco, conceived the idea that an Association of some kind would be of value to the members of the profession in this State, and through the newspapers called a meeting for the purpose of forming a veterinary society, having for its object the promotion of fraternal feeling and advancement of the profession; very few responded to the call, five graduates, I

think, and two non-graduates. The meeting was called to order, and a discussion took place among the graduates as to the feasibility of admitting members without diplomas, in which discussion the non-graduates did not participate. Finally a unanimous verdict was rendered, that there were persons, who from long experience and education, were entitled to recognition, and one of the arguments advanced was that many of these gentlemen had been actively engaged in practice here, when the regular graduate was almost unknown in the State, and had thus, in educating the people to a knowledge of the usefulness of the profession, paved the way for their more advanced brethren. It was, therefore, resolved that when such persons could substantiate an intelligent knowledge of the profession, by a fair, square, theoretical and practical examination, before a board of three graduated professionals, they should be entitled to membership. Now, on that basis there has been five admitted, and numbers rejected. Of the fortunate five, your humble servant is one.

The organization now numbers about a score; at the second meeting seven new members were admitted, all graduates, and all but one expressed their satisfaction with the opinion their professional brothers had taken with regard to empirics; this one finally accepted the conditions, and was made one of the officers, and then all the trouble the young society has known commenced. It was desirable that the Association should have a legal standing, and the Secretary volunteered to assume the responsibility of securing its incorporation under the State laws, before the next quarterly meeting, at which time he also thought he would offer the name of his brother for membership, said brother being about to graduate from a certain college, but instead of doing as directed, he sent in his resignation at the next meeting.

And this, Mr. Editor, is the reason that the society had no legal standing (though it has since been incorporated). Meantime the brother arrived, and immediately commenced to try to destroy the Association, by writing to the graduated members, asking them to withdraw and join himself and brother in the formation of a society consisting only of graduated practitioners. Having

failed in this scheme, and receiving one or two sharp answers from those he addressed, he attacks the organization through the colums of the REVIEW.

And now, Mr. Editor, this talk about the Association providing no protection to the profession is idle, inasmuch as protection must come from State legislation, and the veterinary societies can only see that the law is enforced; until they have such law they are powerless.

In conclusion I wish to say that to accuse a Board of Examiners composed of such men as Dr. J. P. Klench, graduate of Alfort, Dr. Thos. Bowhill, M.R.C.V.S., and Dr. Thos. Maclay, M. R.C.V.S., of admitting "all kinds of non-professionals" to comparative equality with themselves, is an insult alike to their intelligence, manhood and to their *alma mater*.

Yours truly,

H. A. SPENCER.

BACK NUMBER WANTED.

688 Main St., CAMBRIDGEPORT, MASS.,
February 18, 1889.

Mr. Editor:

Please say in your journal that I lack the April number of 1887, (No. 1), of the AMERICAN VETERINARY REVIEW to complete a volume. Any one having this number to dispose of will find a purchaser by addressing. Yours truly,

CHAS. H. HALL.

PRACTICE FOR SALE.

PEORIA, ILL., Feb. 20, 1889.

Dear Editor:

Please insert in your valuable journal, my veterinary practice for sale. I am located in a city of fifty thousand, with only one other graduate; also have the appointment of Assistant State Veterinarian which could be transferred to my successor. My reason for leaving is that I am retiring from the profession to

take up mercantile pursuits in the East. My practice pays me $1,500 a year and no doubt could be made to pay more by a man who would be a hustler. As I am retiring for good, will dispose of office furniture, books, instruments, medicine rack and all that completes a veterinarian outfit. So hoping that the REVIEW will know of some one wanting a practice cheap in a wide-awake town, I will remain, Yours, etc.,

WM. J. ELLIOTT.

VETERINARIAN WANTED.

A good young graduate can have a good practice, hospital, instruments, etc., by applying to W. J. Smith, Genesco, Henry Co., Ill.

SOCIETY MEETINGS.

THE ILLINOIS STATE VETERINARY MEDICAL ASSOCIATION.

The Illinois State Veterinary Medical Association held a special session of its semi-annual meeting at the Leland Hotel, Springfield, Friday, February 8th.

President Williams called the meeting to order at 11:35 A. M.

Twenty-three members responded to roll-call.

The reading of the minutes was laid over until the regular meeting.

Dr. F. Booker proposed the name of a Mr. Jno. Osborn, of Nokomis, for membership, but the applicant being a non-graduate, the Constitution would not permit of his election.

Dr. S. S. Baker proposed the name of Dr. L. A. Merrilat, Ont. '88, now in Chicago. On motion his election was made unanimous.

The principal object of the meeting was brought up next, and Dr. Casewell, chairman of the committee on legislation, presented the bill prepared for the present Legislature. On motion the Secretary was instructed to read the bill in sections, to be acted on separately by the Association.

Several modifications were thought expedient, and the amended bill returned to the committee with authority to make what trivial amendments were necessary to *insure* its passage.

Dr. Casewell named a competent man—a firm friend of the profession—to watch the bill at Springfield, and on motion the bill was placed in his hands.

A special assessment was made to defray the necessary expenses.

At 2 P. M. the Association adjourned for dinner.

At 3 o'clock the members assembled to listen to an able address by Professor G. E. Morrow, Dean of the Agricultural College, University of Illinois. He

dealt briefly but forcibly on the relations existing between the veterinary practitioner and agriculture—his duty to humanity, to the commonwealth, to himself.

A hearty vote of thanks was tendered the Professor on closing his remarks.

Papers were then presented as follows:

Tetanus, Dr. F. Booker, Carlinville; Arthritis in Foals, Dr. J. F. Reid, Decatur; and case reports as follows: Septicæmia after Castration, Dr. T. B. Newby, Shelbyville; and Strangulated Umbilical Hernia, Dr. Jno. Scott, Bloomington.

The discussions were unusually lively and beneficial.

After the proposal in due form of an amendment to the Constitution regarding admission of *associate* members from non-residents, the Association adjourned until the regular meeting at Chicago in June.

J. F. Pease, D.V.S., *Recording Secretary.*

MARYLAND STATE VETERINARY MEDICAL SOCIETY.

The third annual meeting of the Society was held in Baltimore at the rooms of the U. S. Bureau of Animal Industry, Thursday evening, February 21st. Dr. William Dougherty, presiding.

The regular business of the Society adjusted, attention was given to the election of officers for the ensuing year, with the following results:

President, Dr. William H. Martenet; Vice President, Dr. William H. Wray; Secretary and Treasurer, Dr. E. C. Schroeder; Board of Censors, Dr. William Dougherty, Dr. T. F. Barron, Dr. J. F. Ryder, Dr. D. R. Hoffman, Dr. E. C. Schroeder.

Unanimous votes of thanks were offered the retiring officers for the faithful and efficient discharge of their duties, after which the Society went to Tierney's place on Calvert street to enjoy their annual banquet.

Characteristic of the evening were numerous toasts, followed by speeches from various prominent members.

Dr. William Dougherty, the outgoing President, made a strong and eloquent plea for the advancement and better enforcement of State sanitary laws. He related instances in his experience where he had found sanitary conditions, to say the least, highly deleterious to health, and then invited the gentlemen present to co-operate with him by the use of their personal influence and through the public press, in attempting to place thoroughly competent and conscientious men on the State sanitary staff.

F. W. Patterson, M. D., spoke of the prevalence of tuberculosis in our large cities, and of its sources when engendered in families naturally free from hereditary taint, naming, in this connection, meat and milk from tuberculous cows, and then outlining the necessity of milk and meat inspections, and, more particularly, the inspection of milk and meat producing animals. Further, he spoke of the relations between the human and veterinary medical professions, and their dependance on each other.

Dr. George C. Faville, Chief of the Bureau of Animal Industry in Maryland, related a series of facts concerning the use and sale of milk and meat from tuber-

culous cows, calling special attention to one case, a cow, the milk of which was sold during 18 months after tuberculosis had been diagnosed, and during a considerable period after she had been isolated from the dairy herd to which she belonged, with the apparent object to prevent the disease from spreading in the stable without sacrificing the profits to be derived from peddling the diseased milk. The same cow, after her flow of milk ceased, was slaughtered, and her meat sold in public market. Her lungs, filled with an excess of tubercles, were presented to the proper authorities, but no action could be taken because no laws oppose the introduction of bacterial poison into the systems of the men, women and children of the State.

Dr. William H. Wray, State Veterinarian, commented on the lack of legislation in matters essential to public health, and later on indicated the difference between New York and Baltimore analyses of milk, closing with a few words in reference to the good results attendant upon the suppression of swill feeding in dairy stables in New York.

Dr. L. F. Russell, of Maine, gave a short sketch of State Agricultural and Veterinary Experimental Stations and of their object and use.

The desirable flavor of merriment was inspired into the banquet through the wit and humor of Dr. C. K. Dyer and Mr. Fred. Faville.

E. C. SCHROEDER, M.D.V., *Secretary.*

"The Gods give no great good without labor," is an old proverb, and a true one; the hardest labor is not always that which is best paid, however. To those in search of light, pleasant and profitable employment, we say write to B. F. Johnson & Co., Richmond, Va.